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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,372	11/05/2003	Ming-Dou Ker	JC-7897-DIV	8473
23900	7590	05/09/2006	EXAMINER	
J C PATENTS, INC. 4 VENTURE, SUITE 250 IRVINE, CA 92618			STARK, JARRETT J	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/702,372

Applicant(s)

KER ET AL.

Examiner

Jarrett J. Stark

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39 and 46-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 46-50 is/are allowed.
- 6) ☒ Claim(s) 39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/5/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

Claims 46-50 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art search does not reasonably teach the method of forming a pair of isolation structures that define a well region on an SOI substrate, forming a single doped region in the defined well region, and then forming a pair of second doped regions, wherein each of the second doped regions are in contact with a respective isolation region and separated from the first doped region by the well. The primary reason for the allowance of the claims is the inclusion of the limitation "each second type doped region is separated from the first type doped region by the well" in all the claims which is not found in the prior art references.

Hugle (US 3,481,801), the closest relevant prior art found, discloses an isolation technique for integrated circuits comprising: forming a single doped region in the substrate's well region, and then forming a pair of second doped regions, wherein each of the second doped regions are on either side and separated from the first doped region by the well. Hugle's disclosed technique does not teach the method of using this isolation technique in a well region defined by STI regions and on a SOI substrate.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 39 is rejected under 35 U.S.C. 102(e) as being anticipated by Ker et al.
(US 6,894,324).

Regarding claim 39, Ker teaches a method of forming a non-gate diode of a SOI, comprising:

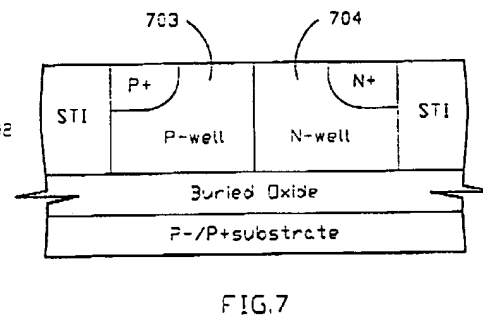
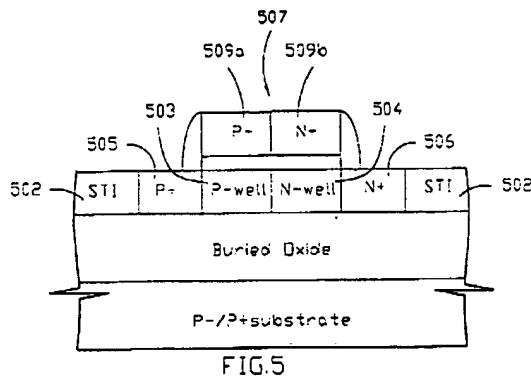
providing an SOI with a substrate (Ker, Figs. 6 & 7), an insulating layer (Ker, Figs. 6 or 7, [buried oxide layer]) and a silicon layer (Ker, Figs. 6 & 7, [substrate & doped regions]) sequentially stacked together,

forming a pair of isolating structures (Ker, Fig. 6 & 7, elements 502) in the silicon layer, so as to define a well region (Ker, Fig. 6 & 7, [503-506 & 703-704]) there between;

forming a lightly doped region in the well region, the lightly doped region comprising a lightly doped P-type region and a lightly doped N-type region directly connected to the lightly doped P-type region; and (Ker, Fig. 6 & 7, [503-504 & 703-704])

forming a P-type heavily doped region and an N-type heavily doped region in the well region and wherein (Ker, Fig. 6, [505-506 & 703])

the P-type heavily doped region is configured between and connects the lightly doped P-type region and one isolating structure and the N-type heavily doped region is configured between and connects the lightly doped N-type and the other isolating structure. (Ker, Figs. 6 & 7)



Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jarrett J. Stark whose telephone number is (571) 272-6005. The examiner can normally be reached on Monday - Thursday 7:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJS
May 5, 2006


MICHELLE ESTRADA
PRIMARY EXAMINER